Journal of Traumatic Stress, Vol. 22, No. 6, December 2009, pp. 632–633 (© 2009)

Improving Models, Methods, and Measures: Contributions of CITRM to the Field of Psychological Trauma

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In 2004, the International Society for Traumatic Stress Studies' Research Methods Special Interest Group initiated annual updates on contemporary research methods in a 2-day conference entitled, Conference on Innovations in Trauma Research Methods (CITRM). These meetings, summarized annually in the Journal of Traumatic Stress*, affected the field in measurable ways. Collaborations were inspired and integration of new conceptual models, methods, and measures influenced the growing body of knowledge. After 5 years of outstanding presentations, CITRM's contributions are palpable. It is clear that trauma research would benefit immeasurably by continued educational opportunities that focus upon improving models, methods, and measures.*

A seminar on scientific methods taken early in my academic career began with the question, "What drives scientific progress: Conceptual advances or technological developments?" Discussion alternated between the primacy of conceptual models that establish an understanding of the scientific problem at hand while laying out the goals and objectives for methodological approaches, and the predominance of technological capabilities that even permit certain questions to emerge on the scientific horizon. There was no conclusion reached as that seminar ended. Yet over my four decades-long career, I have often revisited this question with each new discovery in the field stimulating my thoughts as to whether it was the conceptual advances that drove this new discovery or the technological capabilities. Surely, each scientific advance in a field sets the stage for subsequent questions to arise. Each technological advance permits different and more precise questions to be studied. Accordingly, my perspective today is that an advance in science relies upon independent *and* interdependent progress: Knowledge advances when useful discoveries occur in parallel and are then integrated; likewise, knowledge advances when syntheses of conceptual ideas and technological capabilities emerge.

The International Society for Traumatic Stress Studies' (ISTSS) Research Methods Special Interest Group spawned the Conference on Innovations in Trauma Research Methods (CITRM) in 2004 with the generous assistance of a conference grant from the National Institute of Mental Health and additional support from the Massachusetts Veterans Epidemiology Research and Information Center at VA Boston. Over a 5-year period, Dan and Lynda King, Jeffrey Sonis, Elisa Triffleman, Patrick Palmieri, and Dean Lauterbach provided the national leadership to assemble a 2-day conference for each year from 2004–2008. We owe each of them a debt of gratitude for their commitment to improving the science of psychological trauma. Through their collective efforts, each year the conference highlighted important conceptual and technological advances in research methods that had either recently been applied to the trauma field or that might be effectively applied to the field to generate new important knowledge about traumatic events and their impact on individuals, families, communities, and nations. Having attended several of these meetings, I can attest to the uniformly outstanding and challenging content, matched by the outstanding quality of lecturers who were international experts in their respective scientific areas. *Outstanding* was the most frequent descriptive adjective employed by attendees.

Seeds for this conference came from two classic reviews by the Kings published in the *Psychological Bulletin*: Kaylor, King, and King (1987) and King and King (1991). The first article presented the initial use of meta-analytic strategies in the trauma field; the second highlighted issues of validity extant in the scientific literature on trauma at that time. The latter article on validity should be required reading for every student working in the trauma field; it focuses on fundamental scientific issues that remain pertinent today as the field explodes with new knowledge in psychopathology (psychological and biological), assessment, and treatment outcome (Foa, Keane, Friedman, & Cohen, 2009). As the field grows, however, the need to revisit the fundamentals of validity increases as

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 Published online in Wiley InterScience (www.interscience.wiley.com) DOI: 10.1002/jts.20455

previously established "facts" become challenged by the availability of new technologies, strategies, and concepts.

The CITRM meetings brought to the field the thought leaders in methods and models of psychological science, from both within and outside the trauma research community. New ideas and new approaches generated the possibility of greater progress in the trauma field. As computational power and speed progressed, so did the types of mathematical models that could be applied to data sets growing in size and complexity. CITRM highlighted the development of these new models and methods for those of us invested in advancing the trauma field. Participants in the meetings often discussed the application of these new analytic strategies to ongoing or recently completed projects, thus influencing the direction of work in the area.

Topics addressed in the meetings included the use of longitudinal data for improving the validity of conclusions; methods for managing missing data; the use of the Internet and World Wide Web in improving representativeness in surveys; advances in causal modeling, path analysis, and structural equation modeling; improvements in design and analysis of treatment outcome studies; methods for enhancing assessment of key constructs in the field; and methods to address the ethical issues of studying populations exposed to traumatic events.

The impact of CITRM is noticeable in the field. Studies employing the methods taught are now proliferating and permit us to address complex issues previously beyond our reach. Questions can be asked (and answered) today that were unimaginable when the field began. Recent reviews of the literature in treatment outcome research (Foa et al., 2009), the psychopathology of PTSD (e.g., Friedman, Keane, & Resick, 2008), and the neurobiology of PTSD (e.g., Shiromani, Keane, & LeDoux, 2009) are all a testament to the rapidly advancing science in the field of psychological trauma. The pace of scientific advances is remarkable and characterized by a positively accelerating curve; importantly, the methodological quality of the work is improving as well. Recent reports by committees assembled by the United States' Institute of Medicine (IOM) suggest that the knowledge base is strong, the diagnostic integrity of the construct is excellent, and the progress in understanding the etiology of PTSD as well as its assessment is well established. In this issue, Leon and Davis (pp. xxx–yyy) respond to the IOM'S concern for enhanced treatment research.

Having the opportunity to retrospectively comment upon the impact of CITRM is, of course, a bittersweet experience. Isn't it the case that we still need a routine reminder of the advances in models, methods, and measures in the trauma field? Don't we need a forum regularly for discussing applications of new approaches to our field? Shouldn't we reconsider systematically our methodological needs and strategically plan for how the science of psychological trauma will advance in the next generation? I believe so—won't someone or some entity pick up the mantle?

REFERENCES

Foa, E. B., Keane, T. M., Friedman, M. J., & Cohen, J. A. (Eds.). (2009). Effective treatments for PTSD: Practice guidelines from the International Society for Traumatic Stress Studies (2nd ed.). New York: Guilford Press.

Friedman, M. J., Keane, T. M., & Resick, P. A. (Eds.). (2007). Handbook of PTSD: Science and practice. New York: Guilford Press.

Kaylor, J. A., King, D. W., & King, L. A. (1987). Psychological effects of military service in Vietnam: A meta-analysis. Psychological Bulletin, 102, 257–271.

King, D. W., & King, L. A. (1991). Validity issues in research on Vietnam veteran adjustment. Psychological Bulletin, 109, 107–124.

Leon, A. C., & Davis, L. L. (2009). Enhancing clinical trial design of interventions for posttraumatic stress disorder. Journal of Traumatic Stress, 22.

Shiromani, P. J., Keane, T. M., & LeDoux, J. E. (Eds.). (2009). Posttraumatic stress disorder: Basic science and clinical practice. New York: Humana Press.